

WHAT IS CLAIMED IS:

- 1 1. A compact magnetic induction switch, comprising:
2 a switch case (1);
3 a movable member (2) provided on an opening (1D) of the switch case (1) and
4 being reciprocally movable;
5 an elastic body (3) which is installed inside the switch case (1) and urges an end
6 portion of the movable member (2) so as to be protruded outside of the switch case (1);
7 a magnet (6) fixed to the movable member (2); and
8 a hole IC (4) for detecting change of magnetic field caused by movement of the
9 movable member (2) with its operating point (4a),
10 wherein if the magnet field applied to the operating point (4a) of the hole IC
11 becomes above or below a threshold by movement of the movable member (2), output
12 signal of the hole IC (4) switches on/off.
- 1 2. The compact magnetic induction switch according to claim 1, wherein the magnetic
2 field threshold from an OFF state to an ON state is higher than the magnetic field threshold
3 from an ON state to an OFF state.
- 1 3. The compact magnetic induction switch according to claim 1, wherein a positioning
2 portion for guiding the movable member is provided within the switch case.
- 1 4. The compact magnetic induction switch according to claim 1, wherein a guide
2 portion for guiding the movable member is provided within the switch case.
- 1 5. The compact magnetic induction switch according to claim 1, wherein the switch
2 has a lid member to be fitted to a bottom of the switch case and the opening for deriving a
3 lead wire of the hole IC and an opening for injecting a filler are provided on the lid
4 member.
- 1 6. The magnetic switch of Claim 1, wherein said switch case, said movable member
2 and said base member comprise a synthetic resin.

- 1 7. The magnetic switch of Claim 1, said switch case including a deriving hole
2 providing a path for an output wire connected to said hole IC.
- 1 8. The magnetic switch of Claim 1, including a lid member for fitting to a bottom of
2 said switch case, said lid member including a take out hole providing a path through said
3 lid member for said output wire and an injection hole.
- 1 9. The magnetic switch of Claim 8, including silicon resin injected through said
2 injection hole, said silicon resin sealing the bottom of said switch case.
- 1 10. The magnetic switch of Claim 1, wherein said switch case includes an
2 engaging hole.
- 1 11. The magnetic switch of Claim 10, including a mounting bracket for mounting said
2 switch to a desired member, said mounting bracket including a first side including an
3 engaging portion for engagement with said engaging hole and said mounting bracket
4 including a second side having an opening portion for receiving the end portion of said
5 movable member projecting outwardly of said switch case.
- 1 12. The magnetic switch of Claim 1, wherein when the end portion of said movable
2 member projects outwardly of said switch case the hole IC outputs an OFF signal and when
3 the end portion of said movable member is depressed and moves inwardly the hole IC
4 outputs an ON signal.
- 1 13. The magnetic switch of Claim 12, wherein an operating force of about one gram
2 depresses said movable member and outputs an ON signal.
- 1 14. The magnetic switch of Claim 1, wherein when the end portion of said movable
2 member projects outwardly of said switch case the hole IC outputs an ON signal and when

3 the end portion of said movable member is depressed and moves inwardly the hole IC
4 outputs an OFF signal.

1 15. The magnetic switch of Claim 14, wherein an operating force of about one gram
2 depresses said movable member and outputs an OFF signal.

1 16. The magnetic switch of Claim 1, wherein said end portion of said movable member
2 extends from and is integral with part of a top end section of said movable member so that
3 part of said top end section of said movable member contacts the switch housing to retain
4 said movable member in said switch housing when said end portion projects outwardly of
5 said switch case.

1 17. The magnetic switch of Claim 1, wherein said magnet comprises a permanent
2 magnet.